

I claim:

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A method for detecting whether a remote telephone to which a telecommunication has been directed by a local telephone has been forwarded to a secondary telephone destination:

establishing a telephone connection between the local telephone and the remote

telephone;

identifying an echo characteristic for said telephone connection after the connection has been established; and

comparing the identified echo characteristic with at least one stored value for said echo characteristic from previous connection between said local telephone and said remote telephone to determine whether there is a significant difference between the identified echo characteristic and the stored echo characteristic indicating that the telecommunication to the remote telephone has been forwarded to a secondary telephone destination.

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2. The method of Claim 1, wherein said identifying and said monitoring of an echo characteristic is accomplished by ascertaining differences between a signal and an echo of said signal in the time domain.

3. The method of Claim 1, wherein said identifying and said monitoring of an echo characteristic is accomplished by ascertaining differences between a signal and an echo of said signal in the frequency domain.

5 4. The method of Claim 1, wherein said monitoring of the echo characteristic is a step selected from the group consisting of identifying differences in the magnitude of the signal and an echo of the signal and identifying differences in the shape of the original signal and an echo of that signal.

10 5. The method of Claim 1, wherein said identifying and said monitoring of an echo characteristic is accomplished by means selected from the group consisting of adaptive filtration with an FIR filter, adaptive filtration with an IIR filter, and adaptive filtration with a lattice filter.

6. The method of Claim 1, wherein said identifying of a characteristic echo includes intercepting a signal returned from the remote telephone on the trunk side of the remote central office.

15 7. The method of Claim 1, wherein said identifying of a characteristic echo includes receiving at the local telephone of a signal returned from the remote telephone.

8. The method of Claim 1, wherein said identifying of a characteristic echo utilizes signals transmitted from and received by said local telephone.

9. The method of Claim 1, wherein the signals transmitted from said local telephone includes a known signal generated for the purpose of identifying and monitoring the echo characteristic.

10. The method of Claim 1, wherein the signals generated are selected from the group consisting of a signal with a specific tone and white noise.

11. The method of Claim 1, wherein the identifying of a characteristic echo is accomplished by adaptive filtration with an FIR filter.

12. The method of Claim 1, wherein the identifying of a characteristic echo is accomplished by summing the squares of the coefficients used by an adaptive FIR filter to minimize the echo.

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13. The method of Claim 1, further including the step of verifying that a change in the echo characteristic is caused by the forwarding of the remote telephone to a secondary telephone destination

by continuing to monitor the echo characteristic after the significant change to determine whether the echo characteristic has returned to its stored value.

14. The method of Claim 13, wherein the step of verifying comprises continuing to monitor the echo characteristic for a period of approximately 3 seconds to 3 minutes after the significant change to determine whether the echo characteristic has returned to its stored value.

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15. The method of Claim 1, further including the making of response when it is determined that a significant change in the echo characteristic has occurred consistent with the forwarding of the remote telephone to a secondary telephone destination.

16. The method of Claim 15, wherein said response is selected from the group consisting of terminating the telephone connection, playing a prerecorded message, generating a tone which may be heard at one or more of the local or remote telephones, muting the microphone of the local telephone, and recording the date and time of the remote party's addition of a secondary telephone destination.